

CLAIMS

1. A refrigeration device with a thermally insulating housing (1) enclosing an inner chamber (2) and an evaporator (7) arranged in the housing (1), on the surface whereof an ice layer (13) forms during operation, characterised in that two temperature sensors (12,14) are placed in the vicinity of the evaporator (7) such that for a given thickness of the ice layer (13) only one of the temperature sensors (12) is embedded in the ice layer (13), and that a monitoring circuit (10) connected to the two temperature sensors (12,14) is set up to decide, by means of a difference between temperature values detected by the temperature sensors (12,14), whether defrosting of the evaporator (7) is required or not, and to deliver an output signal indicating the outcome of the decision.
2. The refrigeration device as claimed in claim 1, characterised in that one of the temperature sensors (12) is arranged directly on the surface of the evaporator (7) and the other (14) is arranged at a distance from the surface.
3. The refrigeration device as claimed in claim 1 or 2, characterised in that the evaporator (7) is arranged in a channel (4, 5) communicating with the inner chamber (2).
4. The refrigeration device as claimed in claim 2 and claim 3, characterised in that the other temperature sensor (14) is arranged on an output (4) of the channel (4,5) terminating in the inner chamber.
5. The refrigeration device as claimed in any one of the preceding claims, characterised by a heating device (8)

controlled by the output signal for heating the evaporator.

6. An operating method for a refrigeration device as claimed in any one of the preceding claims, with the steps:
 - a) detecting a difference (ΔT) between temperature values detected by the temperature sensors (12, 14), and
 - b) deciding that a defrosting procedure is necessary, if the difference (ΔT) exceeds a limit value (ΔT_{max}).
7. The method as claimed in claim 6, characterised in that steps a) and b) are in each case performed with a preset delay after the evaporator (7) is started up.
8. The method as claimed in claim 6, characterised in that steps a) and b) are performed if the change in speed of temperature on at least one of both sensors (12,14) has fallen below a limit value.
9. The method as claimed in any one of claims 5 to 8, characterised in that the evaporator (7) is heated when it has been decided that a defrosting procedure is necessary.